

REMARKS

Entry of the foregoing amendments under the provisions of 37 C.F.R. 1.111 and reconsideration of the application in view of the above amendments and the following remarks are respectfully requested.

The Office Action

Claims 1-14 were presented for examination.

Claims 1, 3-8, and 11-18 are now in the application.

The **specification and claim 6** were objected to because of the informalities.

Claim 11 stands rejected under 35 U.S.C. § 112, second paragraph.

Claims 1, 3-8 and 11-14 stand rejected under judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. Patent No. 6,198,093 to Ormond et al.

Claims 1, 3-8 and 11-14 also stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Applicant admitted prior art (AAPA).

Claims 1, 3-8 and 11-14 have been amended.

Claims 2 and 9-10 have been cancelled.

Claims 15-18 have been added.

Amendments to the Drawings

Figure 3A has been amended to include element 20 pointing to the topography, analogously to figure 2A.

Figure 3B has been amended to include element 38 pointing to the sensor areas 38 overlying sensors 14a and 14c, according to page 10, line 10.

Figure 3C has been amended to include element 48 pointing to the sensor areas 48, overlying sensors 14a and 14b, according to page 12, line 23.

Figure 3D has been amended to include element 58 pointing to the sensor areas 58, overlying sensors 14b and 14c, according to page 14, lines 2-3.

Figure 4C has been amended to include element 64, a yellow filter, according to page 15, line 6.

The Non-Art Amendments

Amendments to the specification do not represent any new matter.

The Examiner's objections to informalities in the **specification and claim 6** have been addressed by the appropriate amendments. It is respectfully requested that these objections be withdrawn.

The Examiner's rejection of claim 11 under 35 U.S.C. § 112, second paragraph, has been addressed by the amendments. It is respectfully requested that this ground for rejection of **claim 11** be withdrawn.

The Art Rejections

Claims 1, 3-8 and 11-14 stand rejected under judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. Patent No. 6,198,093 to Ormond et al.

Initially, Applicants respectfully traverse the Examiner's position that Ormond discloses all limitations of claims 1, 3-8 and 11-14 in claims 1-6 of '093. Claim 1 calls for applying a first filter layer on the substrate inclusive of the non-sensor area to at least partially planarize the device and applying a second filter layer over the substrate without removing the first filter layer from the non-sensor area. Although at cursory review it appears that in claims 1-6 Ormond discloses the application of the filter layers to the entire substrate, Ormond is clearly concerned with covering the sensor areas only. Reading the Ormond specification and the claims as a whole, it becomes evident that the first primary color filter layer is deposited over the sensors positioned in the first row of photosites, the second primary color filter layer is deposited over the sensors positioned in the second row of photosites, and the third primary color filter layer is deposited over the sensors positioned in the third row of photosites. (Col. 10, lines 29-43 and

Col. 5, lines 16-20). After the application of each primary color filter layer, it is left only in one row of photosites and etched out from the rest of the substrate. Accordingly, Ormond does not disclose or suggest leaving the filter layers on the areas not overlying the sensor, i.e., non-sensor areas, to even out the device.

Further, Ormond's invention is directed to reducing the effect of the filter layer thinning over the sensor area closest to the groove by depositing the clear base layer over the inner sensor areas and etching it out from the outer sensor areas. It forms a deeper well in the outer photosites and helps to collect more of the filter layer. In contrast, claim 1 recites depositing a base layer over each sensor area and the non-sensor area. The present application attacks a different problem, which is a non-uniform distribution of the filter layers over various portions of the wafer. In particular, when the filter layers deposited over the sensors located further away from the center of the wafer are thinner than the filter layers deposited over the sensors located closer to the center of the wafer. Applicants alleviate this problem by planarizing the surface of the device by leaving the base layer and the filter layers on the non-sensor areas to assist in equal distribution of subsequent filter layers.

In summary, because there is a substantive difference between Ormond and the present application and because Applicants are attacking a different problem by a different method, Applicants submit that the present application is distinct and unobvious over Ormond. Accordingly, Applicants respectfully request that **double-patenting ground for rejection of claims 1, 3-8 and 11-14** be withdrawn.

Claims 1, 3-8 and 11-14 also stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Applicant admitted prior art (AAPA).

Claim 1 calls for applying a base layer over the sensor areas and non-sensor area; applying a first filter layer over the substrate inclusive of the non-sensor area to planarize the device; and applying a second filter layer over the substrate without removing the first filter layer from the non-sensor area. AAPA discloses leaving the first filter layer in the first sensor area and etching it out from the rest of the substrate, including the non-sensor area. The second filter layer

is left in second sensor area and etched out from the rest of the substrate. AAPA teaches away from the Applicants concepts. Neither AAPA, nor a combination of references teaches or suggests depositing the filter layers over the non-sensor area to create the uniform device surface to deposit the filter layers of the same thickness over sensors positioned at different distances relative to the center of the wafer.

It is therefore respectfully submitted that **claim 1, and claims 3-8 dependent on claim 1**, distinguish patentably and unobviously over AAPA.

Claim 11 calls for providing a substrate containing at least a first photosensor and a second photosensor, the first photosensor positioned closer to a point of an initial filter application than the second photosensor and applying a first filter layer over the substrate to include a non-sensor area of the substrate to create an uniform surface to deposit a second filter layer of the substantially uniform thickness over the photosensors. AAPA teaches contrary to the Applicants concepts to remove each filter layer immediately after application from all areas except for an associated sensor area. Neither AAPA, nor a combination of the references teaches or suggests applying a filter layer over substrate and etching it out only from the unassociated sensor areas and leaving it on the non-sensor areas along the wafer perimeter to assist in smooth flowing of the filter layers over the substrate resulting in uniform filter layer application over sensors.

It is therefore respectfully submitted that **claim 11, and claim 12 dependent on claim 11**, distinguish patentably and unobviously over AAPA.

Claim 13 calls for a first filter layer on at least a portion of the non-sensor area to at least partially planarize the device and a second filter layer applied over at least a portion of the substrate without removing the first filter layer from the at least a portion of the non-sensor area. AAPA teaches to remove the first filter from the non-sensor area. Neither AAPA, nor a combination of the references teaches or suggests applying the first filter layer over the substrate and not removing it before applying second filter.

It is therefore respectfully submitted that **claim 13, and claim 14 dependent on claim 13**, distinguish patentably and unobviously over AAPA.

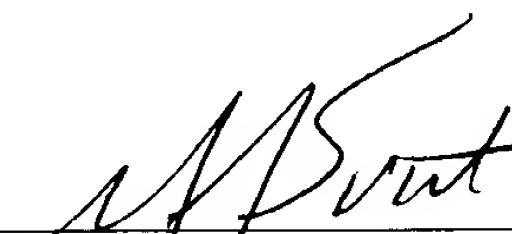
Claims 15-18 have been added to alternatively claim certain aspects of Applicants invention.

Applicants have reviewed additional art cited but not applied. As it is felt that the applied art is more relevant to the application, Applicants will not burden the record with a further discussion of this art.

CONCLUSION

On the basis of the above amendments and remarks, reconsideration of this application and its early allowance are requested.

Respectfully,
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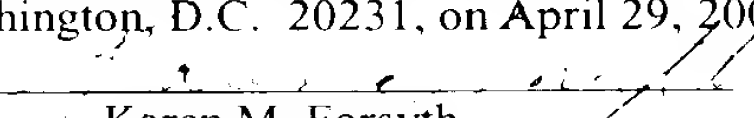


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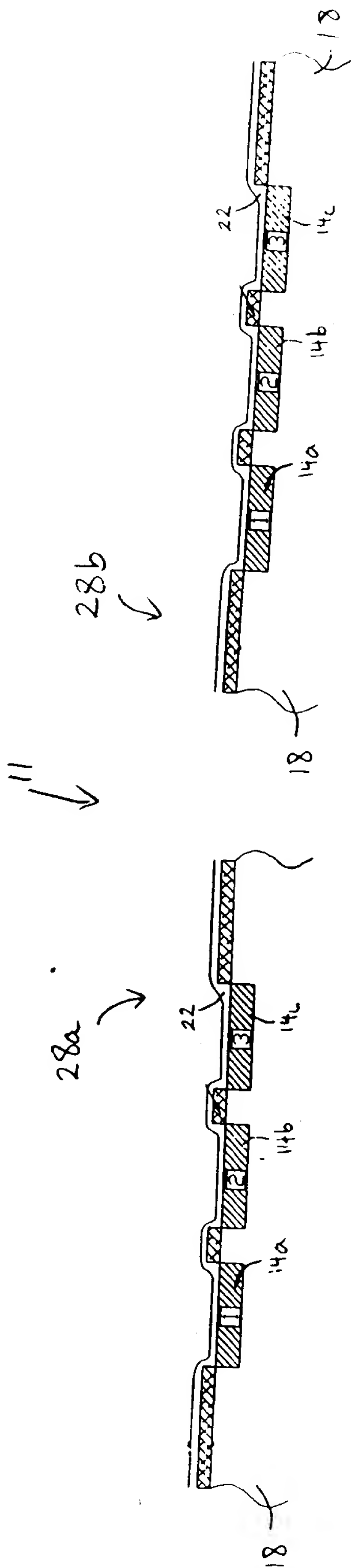
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CERTIFICATE OF MAILING

I hereby certify that this Amendment A along with (2) sheets of drawings including figures 3A-D and 4A-D are being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner of Patents and Trademarks, Washington, D.C. 20231, on April 29, 2003.

By 

Karen M. Forsyth



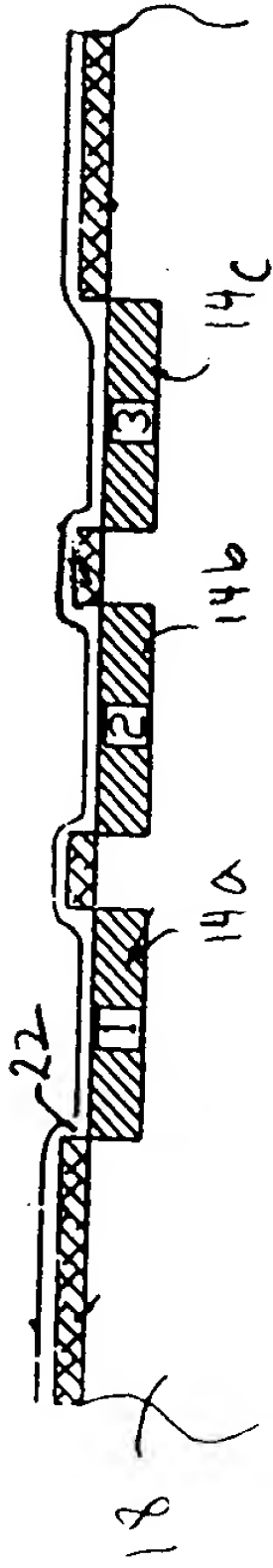


Fig. 4A

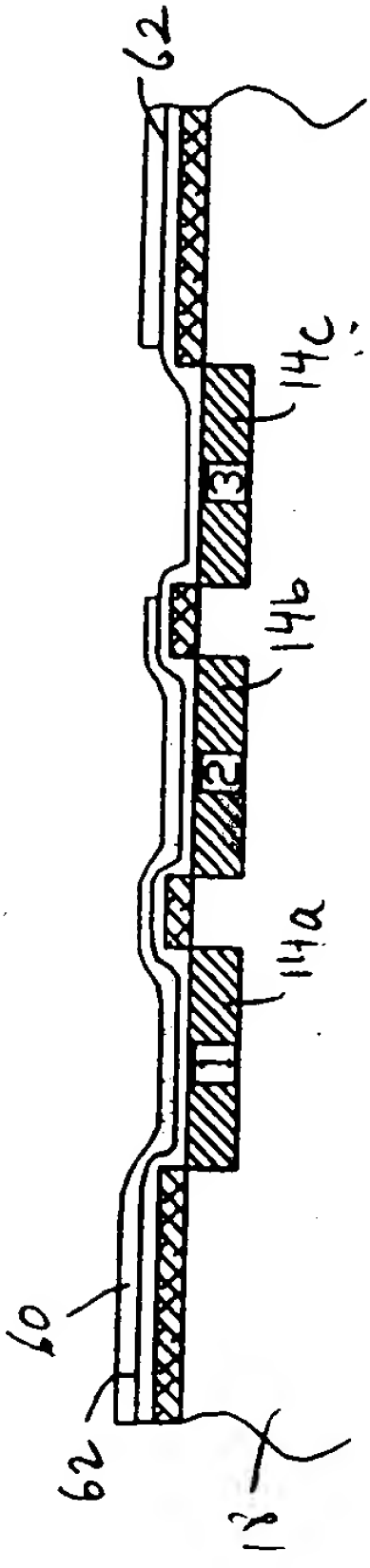


Fig. 4B

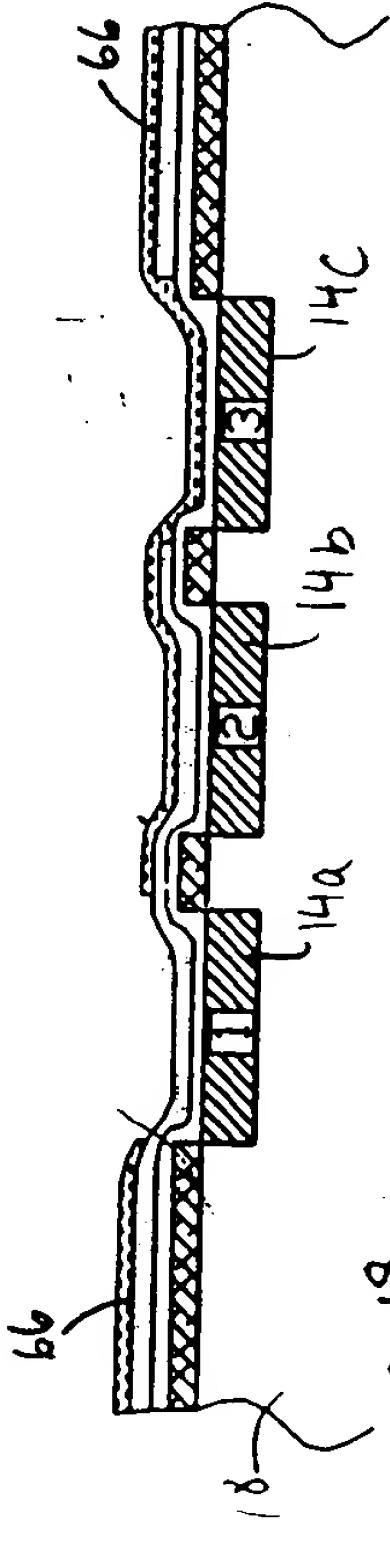


Fig. 4C

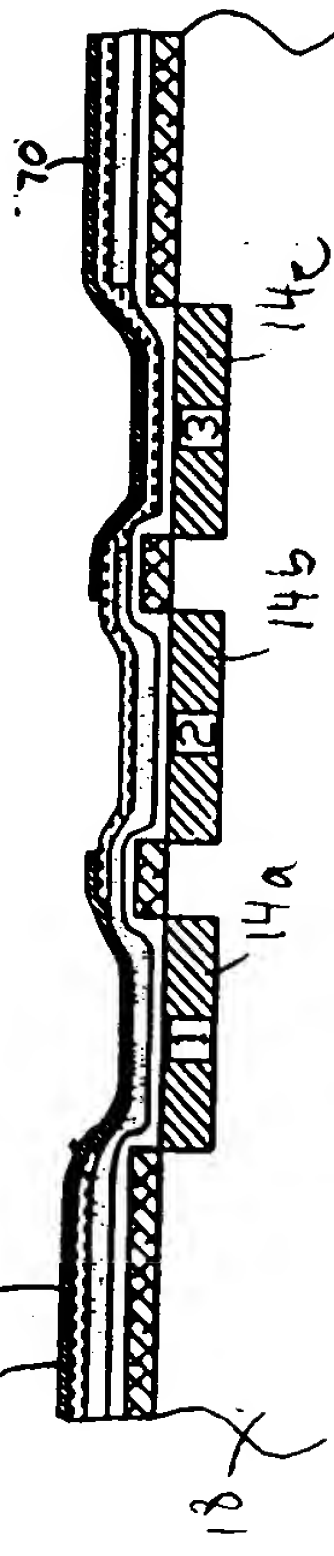


Fig. 4D

